CLAIMS

WHAT IS CLAIMED IS:

1. A method for manufacturing a planar temperature sensor comprising:

disposing a thick amount of a material having a temperature coefficient of resistance of greater than about 800 parts per million and a natural resistance of above about 5 micro-ohm-centimeters on a substrate;

measuring a resistance value of said material; and

setting a laser trimming device to ablate material consistent with achieving an inputted resistance value.

2. A method for manufacturing a planar temperature sensor as claimed in claim 1 wherein said disposing comprises depositing a thick film of material on said substrate in a thick film deposition process.

3. A method for manufacturing a planar temperature sensor as claimed in claim 1 wherein said measuring is to within ± 0.2% total resistance value.

4. A method for manufacturing a planar temperature sensor as claimed in claim 1 wherein said setting includes a first setting to achieve a first inputted resistance value and a second setting to achieve a second inputted resistance value.

5. A method for manufacturing a planar temperature sensor as claimed in claim 4 wherein said method further comprises firing said planar temperature sensor between said first setting and said second setting.

6. A method for manufacturing a planar temperature sensor as claimed in claim 5 wherein said firing is maintained for a period of time.

7. A method for manufacturing a planar temperature sensor as claimed in claim 5 wherein said firing is maintained until an inflection in a resistance versus time curve is reached.

8. A method for manufacturing a planar temperature sensor as claimed in claim 1 wherein said disposing is depositing one of platinum, rhodium, titanium, palladium and mixtures and alloys comprising at least one of the foregoing.

9. A method for manufacturing a planar temperature sensor as claimed in claim 1 wherein said substrate is a ceramic material.

10. A method for manufacturing a planar temperature sensor as claimed in claim 9 wherein said ceramic material is one of alumina, zirconium and composition including at least one of the foregoing materials.

11. A method for manufacturing a planar temperature sensor as claimed in claim 5 wherein said firing is at a temperature from about 1000°C to about 1600°C.